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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GI HYEONG DO

Appeal 2009-0434
Application 10/717,610
Technology Center 3700

Decided: [1]July 17, 2009

Before DEMETRA MILLS, MELANIE L. McCOLLUM, and JEFFREY N. FREDMAN, *Administrative Patent Judges*.

Opinion filed by the Board by *Administrative Patent Judge* MILLS.

Opinion Dissenting-In-Part filed by *Administrative Patent Judge* McCOLLUM.

MILLS, *Administrative Patent Judge*.

DECISION ON APPEAL

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[1] The two-month time period for filing an appeal, as recited in 37 C.F.R. § 1.304 (*see* 37 C.F.R. § 1.983 (b)(1)), begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date.

STATEMENT OF CASE

This is an appeal under 35 U.S.C. § 134. The Examiner has rejected the claims for obviousness and for obviousness-type double patenting. We have jurisdiction under 35 U.S.C. § 6(b).

The following claims are representative:

1. A laundry dryer control method comprising the steps of:

initiating a drying procedure;

measuring temperature;

calculating a temperature variation rate;

calculating a drying time based on the temperature variation rate;

performing the drying procedure for the calculated drying time;

calculating a plurality of temperature variation rates; and

determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates.

6. The method as claimed in claim 5[2], wherein the substantial increase is determined by comparing changes in the plurality of temperature variation rates.

15. The method as claimed in claim 6, wherein determining whether a change in the temperature variation rates is substantial comprises: determining whether the change in a temperature variation rate exceeds 1°C per minute.

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[2] According to the Brief, page 2, claim 5 has been cancelled, thus claims 6 and 15, as well as claim 2, are dependent upon a cancelled claim. Upon return of the Application to the Examiner, the Examiner should consider an appropriate rejection of claims 2, 6, and 15 on this basis if prosecution should continue in the Application.

Cited References

Krüger	US 4,412,389	Nov. 1, 1983
Wentzlaff	US 5,682,684	Nov. 4, 1997
Hyldon	US 3,792,956	Feb. 19, 1974
Do	US 6,775,923 B2	Aug. 17, 2004

Grounds of Rejection

1. Claims 1-3 and 6-8 are rejected under 35 U.S.C. § 103(a) as obvious over Krüger in view of Wentzlaff.

2. Claim 15 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Krüger in view of Wentzlaff in further view of Hyldon.

3. Claims 1-8 and 15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 6,775,923.

Rejection 1

1. Claims 1-3 and 6-8 are rejected under 35 U.S.C. § 103(a) as obvious over Krüger in view of Wentzlaff.

ISSUE

The Examiner argues that:

> [I]t would have been obvious to one skilled in the art to combine the teachings of Krüger with the steps of calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates, disclosed in Wentzlaff, for the purpose of applying a variable process such that an averaged measured value of air temperature during a quasi-steady-state phase to keep approximate equilibrium of heat removal from laundry by recorded and stored memory so that in making a decision as to which of the memorized process courses should be considered for the further

> handling of the load of laundry and a relevant decision data until the quasi-steady-state phase is reached as suggested in the summary of the invention section of Wentzlaff.

(Ans. 6-7.)

Appellant contends that the dryer control method taught by Wentzlaff fails to calculate any rate. (App. Br. 8.) Appellant argues that Wentzlaff "cannot possibly teach or suggest calculating a temperature variation rate, calculating more than one temperature variation rate and determining whether there is a substantial increase in temperature variation rate, as required by the claims." (App. Br. 8.)

The issue is: Does the cited prior art teach or suggest "calculating a plurality of temperature variation rates; and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates," as recited in claim 1.

FINDINGS OF FACT

1. The Specification teaches that "a laundry drier . . . determines a proper drying time by sensing the variation of the temperature per unit time as the drying procedure progresses as well as sensing any change in the temperature variation rate per unit time" (Spec. ¶ 27).

2. The Specification teaches that "[t]he temperature variation rate per unit time, measured from the initiation of the drying procedure, decreases over time at a known rate, and after a predetermined time passes, the temperature variation rate per unit time increases when the drying object is nearly dry. This increase in temperature variation rate per unit time is used

to calculate the remaining drying time and in turn an overall drying time" (Spec. ¶ 27).

3. Krüger teaches "a method of automatically controlling the drying process of a laundry drying system" (Krüger, col. 1, ll. 51-53).

4. Krüger teaches initiating "the early phase of the drying process when the drying system is switched on" (Krüger, col. 2, ll. 20-21).

5. Krüger teaches "measuring and taking into account the temperature difference existing between the drying system and the surrounding air before the beginning of the drying process" (Krüger, col. 2, ll. 36-39).

6. Krüger teaches that "[t]he quotient forming means 101 receives a value indicating the temperature difference between the two temperature marks Θ_1 and Θ_2 from a difference value forming means . . . and forms a signal for the temperature gradient $\Delta\Theta/\Delta t$ from these" (Krüger, col. 5, ll. 38-43).

7. Krüger teaches that a "further calculation stage 102 of the computer calculates the operating time or duration from these values . . . When the operating time calculated by computer 100 has elapsed, the program cycle control unit 2 discontinues the operation of the power consuming components in the drying system 3" (Krüger, col. 5, ll. 43-55).

8. The Examiner finds that Krüger does not teach "calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates" (Ans. 6).

9. Wentzlaff teaches "measuring process variables, such as an actually elapsed time since a program start, and temperature values . . . continuously or at least periodically at frequencies of several times per second"

(Wentzlaff, col. 2, ll. 52-56). Such measurements may be incorporated in fuzzy logic calculations.

10. Wentzlaff teaches that "the thermal output variable rises faster as the heating output becomes higher, depending on the main voltage, and as the amounts of laundry become smaller and the initial residual moisture becomes lower. Thus, thermal output becomes higher as the moisture content of the clothes become lower, i.e., the clothes become drier" (Wentzlaff, col. 3, ll. 25-33.)

11. Wentzlaff uses fuzzy logic to determine remaining drying time. Fuzzy logic is a form of algebra employing a range of values from "true" to "false" that is used in making decisions with imprecise data. The outcome of an operation is assigned a value between 0 and 1 corresponding to its degree of truth. Fuzzy logic is used, for example, in artificial intelligence systems. A fuzzy processor performs fuzzy logic, including multiple calculations. The free dictionary by Farlex. http://www.thefreedictionary.com/fuzzy+logic.

12. According to the Examiner, Krüger in view of Wentzlaff discloses the invention of claim 15 except for the claimed one degree Celsius rate excess. (Ans. 7.)

13. Hyldon discloses instant corn grits, and a method of heating grits by increasing the temperature by 1.5ºC per minute. (Col. 5, ll. 33-37.)

PRINCIPLES OF LAW

"In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. " *In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993) (citations omitted). Only if that burden is met, does the burden of coming

forward with evidence or argument shift to the applicant. In order to determine whether a prima facie case of obviousness has been established, we considered the factors set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1996); (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; (3) the level of ordinary skill in the relevant art; and (4) objective evidence of nonobviousness, if present.

The obviousness analysis "need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 418, 127 S. Ct. 1727, 1741 (2007). This "person of ordinary skill is also a person of ordinary creativity, not an automaton." *Id.* at 1742.

As to motivation to combine references, the Supreme Court in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 415, 127 S. Ct. 1727, 1739 (2007), rejected a rigid application of the teaching-suggestion-motivation test. The Court recognized that it is often necessary to look at the interrelated teachings of multiple references; the effects of demands of the marketplace; and the background knowledge possessed by a person of ordinary skill, "all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed." *Id.* at 1740-41. Moreover, the "obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, or motivation, or by overemphasis on the importance of published articles and explicit content of issued patents." *Id.* at 1741. Finally, one "of the ways in which a patent's subject matter can be proved obvious is by noting that there existed at the time of the invention a

known problem for which there was an obvious solution encompassed by the patent's claims." *Id.* at 1742.

ANALYSIS

Krüger teaches a laundry dryer control method in which a drying procedure is initiated (FF 3-4), temperature is measured (FF 5) and a temperature variation rate is calculated, with a drying time based on the calculated temperature variation rate (FF 6-7). Krüger measures only a single temperature variation rate (FF 8). Wentzlaff teaches the measurement of a plurality of temperatures variations (FF 9-11).

Applying the *KSR* standard of obviousness to the findings of fact, use of a plurality of measurements of temperature as taught by Wentzlaff in the place of the single temperature variation rate measured by Krüger represents a combination of predictable elements. Such a combination is merely a "predictable use of prior art elements according to their established functions." *KSR*, 550 U.S. at 417.

Appellant contends that neither Krüger nor Wentzlaff, singularly or in combination, teach or fairly suggest every element required by independent claim 1. (Br. 7.) More specifically, Appellant argues that the prior art does not disclose a laundry dryer control method that includes "calculating a plurality of temperature variation rates; and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates." (Br. 7.)

Appellant also contend that, "[w]hat Wentzlaff actually teaches is periodically measuring temperatures at different locations in the dryer. (*See* Wentzlaff at col. 8, ll. 29-46.) (Br. 8.) Appellant argues that taking a

plurality of temperature measurements during one or even a plurality of time periods does not constitute calculating a rate, or more specifically, a temperature variation rate." (Br. 7.) Appellant argues that Wentzlaff contains no teaching or suggestion to indicate that the temperature measurements taken at various locations in the dryer are in any way used to calculate or determine a rate of change in the temperature (i.e., a temperature variation rate). (Br. 9.)

We agree with Appellant that neither Krüger nor Wentzlaff alone teach the use of a plurality of temperature variation rates. However, the issue is not anticipation by either reference, but rather whether an ordinary practitioner with ordinary creativity would have found it unobvious to modify Krüger to replace the single measured temperature variation rate with the plurality of measurements used by Wentzlaff. As Wentzlaff states, "[e]mpirically, the measured values for temperature and moisture vary within short periods of time, so that an individual measurement may under some circumstances give an incorrect picture of the physical status prevailing at that time" (Wentzlaff, col. 5, ll. 5-9). An ordinary practitioner would have recognized this possibility of empirical error as one reason to replace the single measured temperature variation rate in Krüger with a plurality of measured temperature variation rates.

CONCLUSION OF LAW

The combination of cited references renders obvious a method of "calculating a plurality of temperature variation rates; and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates" as claimed.

2. Claim 15 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Krüger in view of Wentzlaff in further view of Hyldon (US 3,792,956).

We find that Hyldon is non-analogous art to the claimed invention and is not particularly pertinent to the claimed technology. We do not find that the Examiner has provided sufficient evidence to support a prima facie case of obviousness for the subject matter of claim 15 and the rejection is reversed. We note for the record that claim 15 is dependent upon a cancelled claim, claim 5.

3. Claims 1-8 and 15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 6,775,923.

ISSUE

The pending claims are rejected for obviousness-type-double patenting over the claims of Do. According to the Examiner, although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims reciting calculating a temperature variation rate" is a broader recitation, or at least structurally and functionally equivalent, to the patented step "determining a medium temperature time by measuring a time lapse from said drying procedure, initiating step to a point where the internal temperature reaches a medium temperature between a drying initiation temperature and a maximum drying temperature, setting a

drying time based on the determined medium temperature time and performing the drying procedure for the set drying time." (Ans. 8.)

Appellant argues with respect to the double patenting rejection that there is no indication in Do '923's claims of a teaching or suggestion of, at least, "calculating a plurality of temperature variation rates; and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates," as recited in claim 1 of the Do Application.

The issue is: Is the claimed limitation of calculating a temperature variation rate an obvious variation of the patented limitation, determining a medium temperature time and setting a dryer time based on medium temperature time.

FINDINGS OF FACT

14. The pending claims are rejection for obviousness-type-double patenting over the claims of Do. According to the Examiner, although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims reciting calculating a temperature variation rate" is a broader recitation, or at least structurally and functionally equivalent, to the patented step "determining a medium temperature time by measuring a time lapse from said drying procedure, initiating step to a point where the internal temperature reaches a medium temperature between a drying initiation temperature and a maximum drying temperature, setting a drying time based on the determined medium temperature time and performing the drying procedure for the set drying time." (Ans. 8.)

15. Claim 1 of the pending application is directed to:

1. A laundry dryer control method comprising the steps of:

initiating a drying procedure;

measuring temperature;

calculating a temperature variation rate;

calculating a drying time based on the temperature variation rate;

performing the drying procedure for the calculated drying time;

calculating a plurality of temperature variation rates; and

determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates.

16. Claim 1 of the Do patent is directed to:

1. A laundry dryer control method comprising the steps of:

initiating a drying procedure by actuating a plurality of drivers, including a heater driver to increase an internal temperature of a laundry drier;

determining a medium temperature time by measuring an time lapse from said drying procedure initiating step to a point where the internal temperature reaches a medium temperature between drying initiation temperature and a maximum drying temperature;

setting a drying time based on the determined medium temperature time, and

performing the drying procedure for the set drying time.

17. The Specification of the Do patent indicates a medium temperature time is determined by a time lapse from the drying procedure initiating step to a point where the internal temperature reaches a medium

temperature between a drying initiating temperature and a maximum drying temperature. (Do, col. 2, ll. 35-42.)

PRINCIPLES OF LAW

"In the prosecution of a patent, the initial burden falls on the PTO to set forth the basis of any rejection, i.e., a prima facie case." *Hyatt v. Dudas*, 492 F.3d 1365, 1369 (Fed. Cir. 2007). "Obviousness-type double patenting is a judicially created doctrine grounded in public policy, which prevents the extension of the term of the original patent via the patenting of an obvious variation. Under obviousness-type double patenting, a patent is invalid when it is merely an obvious variation of an invention disclosed and claimed in an earlier patent by the same inventor." *Georgia-Pacific Corp. v. U.S. Gypsum Co.*, 195 F.3d 1322, 1326 (Fed. Cir. 1999). The disclosure of a reference patent may not be used as prior art in a double patenting rejection however, in certain situations it may be used to define terms in claims and to determine whether an embodiment claimed was modified in an obvious manner. *Carman Indus., Inc. v. Wahl*, 724 F.2d 932, 940 (Fed. Cir. 1983). The *Graham* factual inquiries govern an obvious-type double patenting analysis, *See Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966), a sustainable obviousness-type double patenting rejection makes clear:
(A) the scope and content of a patent claim relative to a claim in the application at issue;
(B) the differences between the scope and content of the patent claim as determined in (A) and the claim in the application;
(C) the level of ordinary skill in the pertinent art; and
(D) the value of any objective indicia of nonobviousness.

"[O]bviousness requires a suggestion of all limitations in a claim." *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (citing *In re Royka*, 490 F.2d 981, 985 (CCPA 1974)).

ANALYSIS

Appellant contends the claims of Do '923 fail to render obvious the elements of "calculating a plurality of temperature variation rates; and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates," as recited in independent claim 1 of the present application. (Br. 6.)

To support the double patenting rejection, the Examiner asserts that the third element of the Do Application, that is, the claimed feature of "calculating a temperature variation rate," is considered a broader recitation of "determining a medium temperature time by measuring a time lapse from said drying procedure initiating step to a point where the internal temperature reaches a medium temperature between a drying initiation temperature and a maximum drying temperature; setting a drying time based on the determined medium temperature time and performing the drying procedure for the set drying time," as claimed in Do '923. *(Id.)* (Br. 6-7.)

We are not persuaded by the Examiner's argument that the claimed feature of "calculating a plurality of temperature variation rates," is an obvious variation of the patented feature, "determining a medium temperature time by measuring a time lapse from said drying procedure initiating step to a point where the internal temperature reaches a medium temperature between a drying initiation temperature and a maximum drying temperature; setting a drying time based on the determined medium

temperature time and performing the drying procedure for the set drying time".

The claimed plurality of temperature variation rates is construed by the Examiner as a change in temperature over a change in time. However, the Examiner has failed to indicate how the amount of time from an initial time to a time when the dryer reaches a medium temperature, is a calculation a temperature variation rate or a plurality of temperature variation rates, as presently claimed.

For this reason the obviousness-type double patenting rejection is reversed.

SUMMARY

The obviousness-type double patenting rejection is reversed. The obviousness rejections of the claims are affirmed, except the obviousness rejection of claim 15 is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED-IN-PART

McCOLLUM, *Administrative Patent Judge*, dissenting-in-part.

I concur with the decision to reverse the double-patenting rejection and the obviousness rejection of claim 15. However, I do not agree that the Examiner has set forth a prima facie case that the method of claim 1 would have been obvious. I would therefore also reverse the obviousness rejection of independent claim 1, as well as of dependent claims 2, 3, and 6-8.

ISSUE

With regard to the obviousness rejection of claims 1-3 and 6-8, the Examiner relies on Krüger for disclosing "the claimed invention except for the claimed steps of calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates" (Ans. 6). The Examiner relies on Wentzlaff for disclosing the "steps of calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates" (*id.*). The Examiner concludes that it would have been obvious "to combine the teachings of Krüger with the steps of calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates, disclosed in Wentzlaff" (*id.* at 5-6).

Appellant argues that Wentzlaff fails to "teach or suggest calculating a temperature variation rate, calculating more than one temperature variation rate and determining whether there is a substantial increase in temperature variation rate, as required by the claims" (App. Br. 8).

I frame the issue as follows: Has Appellant shown that the Examiner erred in concluding that Wentzlaff teaches or suggests "calculating a plurality of temperature variation rates; and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates," as recited in claim 1.

FINDINGS OF FACT

18. Wentzlaff discloses "a method for controlling drying processes in household washer-dryers" (Wentzlaff, col. 2, ll. 32-33).

19. In particular, Wentzlaff discloses a method comprising:

> measuring a waste air temperature at the waste air outlet at a starting point of a drying process; periodically turning at least part of the heating device on and off during at least one time segment at a beginning of the drying process; taking air temperature measurements at an inlet of the heating device, upstream of the incoming air inlet and immediately downstream of the waste air outlet, . . . and forming and storing in memory differences from the measured values in the waste air, at the inlet to the heating device, and in the incoming air; and measuring process variables, such as an actually elapsed time since a program start, and temperature values and moisture values of the laundry to be dried, continuously or at least periodically at frequencies of several times per second, and calling up a plurality of memorized process sequences to the memory each time for output to and processing in the program control unit, upon attainment of predetermined threshold values as a function of entered program parameters pertaining to at least one of type, amount and initial residual moisture of laundry.

(*Id.* at col. 2, ll. 40-61.)

20. In describing a preferred embodiment, Wentzlaff discloses:

> The diagram shown in FIG. 2 illustrates the fact that the heating device 5 at the onset of the drying process is switched periodically back and forth to a full heating output and a half

> heating output. . . . As is clearly visible in the diagram of FIG. 3, the result is an upswing and a downswing in a temperature ν_3 measured at the temperature transducer 3 at the incoming air inlet 11 to the laundry drum 10. From a time t_2=4 minutes onward, heating is then carried out continuously with the full heating output, until the temperature transducer 3 ascertains an excessively high temperature.

(*Id.* at col. 8, ll. 1-12.)

21. Wentzlaff also discloses:

> At a starting time t_0 of the drying operation, a waste air temperature ν_{4s} is measured at the temperature transducer 4 in the waste air outlet. . . . Since at that moment the heating device 5 is still cold, the temperature being measured relates only to the situation of the surroundings and of a possibly applicable preheating of the washer-dryer from a previous drying process. At the starting time t_0, the heating device 5 is also switched to full heating output.

(*Id.* at col. 8, ll. 17-27.)

22. In addition, Wentzlaff discloses:

> Upon starting from the cold state of the washer-dryer, the quantity of heat imported by the heating device 5 must initially also heat the parts of the washer-dryer that come into contact with the warm air stream, along with the load of laundry. In the example of FIG. 3, the temperature ν_3 at the transducer 3 in the incoming air inlet 11 reaches approximately 75° after one minute, while a temperature ν_4 at the transducer 4 in the waste air outlet 12 reaches only approximately 30°. In the next one-minute interval, the heating device 5 is switched back to half the heating output, and as a result the temperatures ν_3 and ν_4 drop again, with ν_3 dropping to about 55° and ν_4 to about 25°. In the second full ON period of the heating device 5 in the third one-minute interval, a temperature ν_{31} at the time t_1 reaches about 80°, while a temperature ν_{41} reaches about 35°. A temperature ν_{21} at the transducer 2 in front of the inlet of the

> heating device 5 still is assumed to amount to 20° C. at that time, which is the temperature of the aspirated ambient air.

(*Id.* at col. 8, ll. 29-46.)

23. Wentzlaff also discloses:

> At the time t_1 at which the temperatures v_{21}, v_{41} and v_{31} are measured and averaged, differences $v_{4-2}=v_{41}-v_{21}$, $v_{3-4}=v_{31}-v_{41}$ and $v_{3-2}=v_{31}-v_{21}$, are also formed immediately. From the variables which are then present for the starting temperature v_{4s}, the temperature differences v_{4-2}, v_{3-4} and v_{3-2}, and the elapsed time thus far for $t_1=3$ minutes, the fuzzy processor calculates a total drying time, which together with an algorithm 1 then called up by callup A1 for the process segment preceding is used for correction of the remaining time display that until then had been estimated.

(*Id.* at col. 8, l. 59, to col. 9, l. 1.)

24. In addition, Wentzlaff discloses that the "remaining time to be displayed is calculated . . . by the fuzzy processor on the basis of the variables available at the moment of the callup" and that this "type of calculation is employed together with the algorithms in callups A1, A2 and A3" (*id.* at col. 9, ll. 1-22).

ANALYSIS

The Examiner finds:

> Wentzlaff . . . discloses steps of calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates at column 8 lines 1-59 because the disclosed start temperature values at minute intervals and system response represent a variation rate calculation since both measure a value and provide a response function and because the disclosed considerable higher heating determines a substantial temperature increase in variation rate, as a function of a

> plurality of temperature variation rates, since both are an iterative process to determine a laundry dryer control method.

(Ans. 6.) In particular, the Examiner finds that Wentzlaff suggests that "air inlet temperature reaches '75 degrees after one minute' (please see column 8 line 35) then in 'the next one minute interval' (please see column 8 line 37), the temperature drops to 'about 55 degrees' (please see column 8 line 40)" and that "[t]his expressed teaching meets the claimed calculating and determining temperature variation rates as a function of plural temperature variations" (Ans. 9). I do not agree.

Wentzlaff discloses that, at various callups, a fuzzy processor calculates the remaining drying time "on the basis of the variables available at the moment of the callup" (FF 23-24). At callup A1, Wentzlaff discloses that these variables include the starting temperature, the temperature differences, and the elapsed time (FF 23). The starting temperature refers to the temperature "measured at the temperature transducer 4 in the waste air outlet" at starting time t_0 (FF 21). The temperature differences refer to the differences, at time t_1, between the temperatures at the transducer 3 in the incoming air inlet 11, at the transducer 4 in the waste air outlet 12, and at the transducer 2 in front of the inlet of the heating device 5 (FF 22-23). The elapsed time at t_1 is 3 minutes (FF 23). At later callups, additional variables would be available and therefore used by the fuzzy processor to calculate the remaining drying time (FF 19 & 24).

As noted by the Examiner, Wentzlaff does disclose that "the temperature v_3 at the transducer 3 in the incoming air inlet 11 reaches approximately 75° after one minute. . . . In the next one-minute interval, . . . the temperature[] v_3 . . . drop[s] to about 55°. . . . In . . . the third one-minute

interval, a temperature v_{31} at the time t_1 reaches about 80°." (FF 22.) In addition, Wentzlaff discloses that, "after one minute, . . . a temperature v_4 at the transducer 4 in the waste air outlet 12 reaches only approximately 30°. In the next one-minute interval, . . . the temperature[] . . . v_4 drop[s] . . . to about 25°. In . . . the third one-minute interval, . . . a temperature v_{41} reaches about 35°." (*Id.*) Whether or not this discloses or suggests "calculating a plurality of temperature variation rates," I do not agree that the Examiner has adequately explained how the applied references disclose or suggest "determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates."

CONCLUSION

In my opinion, Appellant has shown that the Examiner erred in concluding that Wentzlaff teaches or suggests "calculating a plurality of temperature variation rates; and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates." I would therefore reverse the obviousness rejection of claims 1-3 and 6-8.

DISSENTING-IN-PART

lp

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